

THE UNITED SHATES OF ANTERIOA

TO ALL TO WHOM THESE PRESENTS SHAW COME: Hirginia State University and H.S. Government, as represented by the Secretary of Agriculture

I LETCHS, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT. THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE PASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS AM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, NOTITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR CONDITIONING IT PAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR TO VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84) AMENDED, 7 U.S.C. 2321 ET SEO.)

SOYBEAN

'ASMARA'

In Testimon Thecest, I have hereunto set my hand and caused the seal of the Hant Baciety Frotection Office to be affixed at the City of Washington, D.C. this twenty-seventh day of April, in the year two thousand and four.

Attest:

Qemze

Plant Variety Protection Office Agricultural Marketing Service Jankenan Jordany of Agriculturo U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

ADDITION FOR REALT VARIETY PROTECTION CERTIFICATE

Application is required in order to determine if a plant variety protection certificate is to be issued

(instructions and information	collection burden statement on revers	56) (7 0.3.C, 2421).	information is neid confidential (inus cerunces	9 IS ISSUED (7 U.S.C	. 2426).
1. NAME OF OWNER 1. VIRGINIA STATE UNIVERSITY			TEMPORARY DESIGNATION OR EXPERIMENTAL NAME			 E
2 U.S. Government, as represented by the Secretary of Agriculture			VS96-239 ASMARA			ARA
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 1. Room # 115, M.T. Carter Building Carter G. Woodson, Dr. Petersburg, VA 23806 2. USDA, ARS Ream 226, BLDG.001, BARC-West Suscainable Agricultural System laboratory 10300 Baltimore Avenue, Beltsville MD 20705-2350			5. TELEPHONE (Include area 804-524-5631 301-504-6375 6. FAX (Include area code) 804-524-5622 301-504-5320	2	FUNG DATE	0 2 0 8
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF 8. IF INCORPORATED, GIVE			9. DATE OF INCORPORATION 1. 1882 2. N	***	4/1/2	2003
 NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person). Tadesse Mebrahtu(Technical Representative of Virginia State Virginia State University, Petersburg, VA 23806 Winfrey S. Clarke Room # 115M.T. Carter Building Carter G. Woodson, Dr. Petersburg, VA 23806 			, , ,	reeder	CERTIFICATI	2,00 42003 On fee:
11. TELEDUOME (Include area code) 804-524-5951	12. FAX (Include area code) 804-524-5186	13. E-MAIL tmebraht@vs	ar edu	1	KIND (Common N OYBEAN	
15. GE AND SPECIES NAME OF CROP Glycine max Glycine max Glycine max Legularia			cel)	17. IS THI HYBRI	E VARIETY A FIRS D? YES	T GENERATION
reverse)	ATTACHMENT SUBMITTED (Follow instructions	1	OWNER SPECIFY THAT SEED (SEED? See Section 83(e) of	OF THIS VAR	RIETY BE SOLD AS riety Protection Act	A CLASS OF
a.		20. DOES THE VARIETY BY IF YES, WH. 21. DOES THE VARIETY BY IF YES, SPE NUMBER 1.		OF THIS CLASSES? ATION CONTRACTOR	REGISTERED	CERTIFIED CERTIFIED CERTIFIED
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? YES NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE IF		ED 23. IS THE VAR PROPERTY OR USE IF YES, PLE	IETY OR ANY COMPONENT OF RIGHT (PLANT BREEDER'S RIG YES ASE GIVE COUNTRY, DATE OF E NUMBER. (Please use space is	THE VARIE SHT OR PAT	IY PROTECTED B	Y INTELLECTUAL
24. The owners declare that a viable sample of for a luber propagated variety a tissue cult. The indersigned owner(s) is(are) the owner and hilled to protection under the province of the pr	I basic seed of the variety will be furnished with a are will be deposited in a public repository and in er of this sexually reproduced or tuber propagate sions of Section 42 of the Plant Variety Protection entation herein can jeopardize protection and res	application and will be replenish reintained for the duration of the diplant variety, and believe(s) to Act. SIGNATURE OF NAME (Please p.	ed upon request in accordance ve certificate. hat the variety is new, distinct, un	rith such regu	stations as may be	
Winfrey S. Clarke CAPACITY OR TITLE Associate Dean and Directo	CAPACITY OR 1	·	ator	DATE /	12003	

Exhibit A.

Origin and Breeding History of the Variety

Asmara is from the cross PI 417288 x BV- 4. The F2 through F5 progenies from this cross were advanced through single seed descent (SSD). At seed maturity F5 single plants were selected and threshed individually. Individual plants were grown in single rows at the Randolph Farm of Virginia State University. Breeding lines that produced high seed yield with large seed size were identified from the bulk F6 plant rows. The major selection criteria used during cultivar development were seed size, green pod yield, seed shattering and lodging resistance. The cultivar Asmara was observed for three generations and found to be uniform and stable. No variant plants were observed during this time.

Exhibit B.

Statement of Distinctness.

Asmara is most similar to Twiggs. Asmara has white flowers and tawny pubescence, yellow seed coats, buff hila and tan pods. Twiggs has purple flowers, tawny pubescence, yellow seed coats, black hila and tan pods. Averaged over two locations and years, the seed size of Asmara is 22 g/100 seeds and Twiggs has 13.3 g/100 seeds with a least significant difference of 2.01 at 5% probability level.

Asmara is 7 days earlier in maturity than Twiggs. Asmara has an average plant height 15 cm lower than Twiggs. Asmara is 7.5% lower in oil than Twiggs.

Form Approved - OMB No. 0581-0055

According to the Paperwork Reduction Act of 1995, an agency may not conduct or aponeor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE SCIENCE AND TECHNOLOGY PLANT VARIETY PROTECTION OFFICE **BELTSVILLE, MD 20705**

EXHIBIT C (Soybean)

OBJECTIVE DESCRIPTION OF VARIETY SOYBEAN (Glycine max (L.) Merr.)

NAME OF API		RSITY AND II	S GOVERNME	NT	FOR OFFICIAL USE ONLY	
VIRGINIA STATE UNIVERSITY AND U.S. GOVERNMENT ADDRESS (Screet and No. or R.F.D. No., City, State, and ZIP Code)					and the contract of the contra	
ROOM		,			VARIETY NAME	
	RTER BUILDING				ASMARA	
	R G. WOODSON	•			TEMPORARY OR EXPERIMENTAL DESIGNATION	
PETERS	BURG, VA 23806				VS96-239	
PLEASE R	1	 		r that describes the varie	etal character of this variety in the boxes	
Place a zero quantitative	in the first box (e.g.	9 9 or 0) when num	ber is either 99 or less or	9 or less respectively. Data for	
plant chara	cters should be based on a	minimum of 100 plants.	Comparative data shou	ld be determined from v	arieties entered in the same trial. Royal	
Horticultur	al Society or any recognized	l color standard may be t	ssed to determine plant	colors; designate system	used:	
Please answ	er all questions for your va	riety; lack of response m	ay delay progress of you	ır application.		
A. MORI	HOLOGY				•	
Seed Shape	e :					
1	1 = Spherical (L/W, L/T, and T/	W ratios < 1.2)		cal-Flattened > 1.2; L/T ratio	< 1.2)	
	3 = Elongate (L/T ratio > 1.2; 7	1/W ratio < 1.2)		te-Flattened > 1.2;T/W ratio >	1.2)	
Seed Coat	Color:					
1	1 = Yellow	2 = Green	3 = Brown	4 = Black	5 = Other (Please Specify)	
Seed Coat	Luster:					
1	1 = Dull	2 = Shiny				
Seed Size:						
2 2	grams/100 seed	ls			1	
Hilum Color:						
1	1 = Buff 6 = Black	2 = Yellow 7 = Other (<i>Please</i>	3 = Brown Specify)	4 = Gray	5 = Imperfect Black	

A. MORPHOLOGY (Continued)

Cotyledon Color:

1 1 = Yellow 2 = Green

Seed Protein Peroxidase Activity:

 $\begin{array}{|c|c|c|}\hline 1 & 1 = Low & 2 = High \end{array}$

Hypocotyl Color:

1 = Green 2 = Green with Bronze 3 = Light Purple 4 = Dark Purple extending to the distribution of 'Davis') Bands below Cotyledon below Cotyledons ('Woodworth' or 'Tracy') ('Beeson' or 'Pickett 71') 'Coker', or 'Hampton 266A')

Leaf Shape:

2 1 = Lanceolate 2 = Oval 3 = Ovate 4 = Other (Please Specify)

Flower Color:

1 1 = White 2 = Purple 3 = White with a Purple Throat

Pod Color:

Pubescence Color:

 $\boxed{2}$ 1 = Gray 2 = Brown (Tawny) 3 = Light Tawny

Plant Habit:

1 1 = Determinate 2 = Semi - Determinate 3 = Indeterminate 4 = Intermediate

Maturity Group:

Maturity Subgroup:

5 Please enter a value from 0 - 9

B. DISEASE REACTIONS 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

Bacterial

Bacterial Pustule (Xanthomonas campestris pv. glycines (Nakano) Dye)

Bacterial Blight (Pseudomonas syringae pv. glycinea (Coerper) Young, Dye, & Wilkie)

Wildfire Blight (Pseudomonas syringae pv. tabaci (Wolf & Foster) Young, Dye, & Wilkie)

B. DISEASE REACTIONS (Continued)	0 = Not Tested	1 = Susceptible	2 = Resistant $3 = Tolerant$
Fungal			
Brown Spot (Septoria glycines Hem	mi)		
Frogeye Leaf Spot (Cercospora sojin	ua Hara)		
0 race 1 0	race 2	0 race 3	0 race 4
0 race 5 0	race 6	0 Other (Please Specify)
Target Spot (Corynespora cassücola	(Berk. & Curt.) Wei		
Downey Mildew (Peronospora trifoli	iorum var. manchuric	ca (Naum.) Syd. ex G	äum)
0 Powdery Mildew (Microsphaera diff	usa Cke. & Pk.)		
Brown Stem Rot (Phialophora grego	uta (Allington & Chan	aberlain) W. Gams.)	
Stem Canker (Diaporthe phaseolorus	m (Cke. & Ell.) Sacc.	var. caulivora Athov	v & Caldwell)
Pod and Stem Blight (Diaporthe pha	seolorum (Cke. & Ell	.) Sacc. var. sojae (L	ehman) Wehm.)
2 Purple Seed Stain (Cercospora kikud	hii (T. Matsu. & Ton	noyasu) Gardener)	-
Rhizoctonia Root Rot (Rhizoctonia s	olani Kühn)		
Phytophthora Root Rot (Phytophthora megas	sperma Drechs. f. sp.	g <i>lycinea (</i> Kuan & Er	win))
0 race 1 0 race 8	o race 15	race 22	
1 acc 2 1 acc 3	0 race 16	0 race 23	
0 1200 1	- 1 **** -	0 race 24	
race 4 race 11		race 25	
nace 3	n lace 19	race 26 Other (Please St	•
Take 0 o race 13	race 20 race 21	Other (Please Sp	ecc(fy)
Bud Blight (Tobacco Ringspot Virus)		
O Yellow Mosaic (Bean Yellow Mosaic	Virus)		And the second s

B. DI	SEASE REACTIONS (Continued)	0 = Not Tested	1 = Susceptible	2 = Resistant	3 = Tolerant	
0	Cowpea Mosaic (Cowpea Chlorotic	Virus)				
0	Pod Mottle (Bean Pod Mottle Virus)				
0	Seed Mottle (Soybean Mosaic Virus	()				
Nemate	ode					
Soybea	n Cyst Nematode (Heterodera glycine	s Ichinohe)				
0	race 1 0 race 4	0 race 9)			
0	race 2 0 race 5	1 race 1	14			
1	race 3 0 race 6	0 Other	: (Please Specify)			
0	Lance Nematode (Hoplolaimus colum	mbus Sher)				
0	Southern Root Knot Nematode (Me	loidogyne incognita ((Kofoid & White) Ch	itwood)		
0	Northern Root Knot Nematode (Me	loidogyne hapla Chi	twood)			
0	Peanut Root Knot Nematode (Meloi	idogyne arenaria (Ne	al) Chitwood)			
0	Reniform Nematode (Rotylenchus re	eniformus Linwood &	& Olivera)			
0	Javanese Nematode (Meloidogyne ja	vanica (Treub) Chit	wood)			
0	Other Nematode (Please Specify)					
	YSIOLOGICAL RESPONSES	0 = Not Tested	1 = Susceptible	2 = Resistant	3 = Tolerant	_
0	Iron Chlorosis on Calcareous Soil					
0	Phosphorus	0 Other	· (Please Specify)	:		
0	Boron	,				
0	Aluminum		٠			
0	Salt	٠				
0	Drought	•				

D. IN	SECT REACTIONS	0 = Not Tested	1 = Susceptible	2 = Resistant	3 = Tolerant
0	Mexican Bean Beetle (Epilachna va	urivestis Mulsant)			
0	Potato Leaf Hopper (Empoasca fab	pae (Harris))			
0	Other (Please Specify)		· .		
E. H	ERBICIDE REACTIONS	0 = Not Tested	1 = Susceptible	2 = Resistant	
0	Metribuzin				
0	Bentazone				
0	Sulfonylurea				
0	Glyphosate				
0	Glufosinate				
0	Pendimethalin				
0	Other (Please Specify)				
F. TR	ANSGENIC COMPOSITION			······································	
soybear	e development of the subject variety n, or, the removal of genetic materia please complete the following inform	l from the applicatio	n variety?		other than a YES X NO
1. Ple	ase state the vector's name:				
2. Pie	ase state the vector components:				
3. Please describe the genetic material successfully transferred into the subject variety:					
4. Pie	ase describe the insertion protocol:				
	iterature citation(s) explaining the fo "Transgenic Composition" portion of		ests above may be an	acceptable alterr	ative to completion of
G. BIG	CHEMICAL MARKERS				- X
(e.g. Si	lescribe any biochemical information mple Sequence Repeats, Restriction necessary.	n here, which you be Fragment Length Po	lieve will be helpful in dymorphisms, Isozym	n further describi ic Characterization	ng the subject variety on). Use additional

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O.S. DEPARTMENT OF AGRICULTURE	Februarions. F	ORM APPROVED - OMB No. 0581-00
AGRICULTURAL MARKETING SERVICE	Application is required in order to det	ermine if a plant variety protection
EXHIBIT E	1 Volumente la	(27) The informalism is to 1
STATEMENT OF THE BASIS OF OWNERSHIP	confidential until the certificate is issu	ed (7 U.S.C. 2426).
1. NAME OF APPLICANT(S) 1. VIRGINIA STATE UNIVERSITY	2. TEMPORARY DESIGNATION	3. VARIETY NAME
 U.S DEPARTMENT OF AGRICULTURE AS REPRESENTED BY THE SECRETARY OF AGRICULT 	OR EXPERIMENTAL NUMBER	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country)	1070 237	ASMARA
ROOM # 115	5. TELEPHONE (Include area code)	6. FAX (Include area code)
M.T. CARTER BUILDING CARTER G. WOODSON, DR.	804-524-5632	804-524-5622
PETERSBURG, VA 23806	7. PVPO NUMBER 0 0 3 0 0	
8. Does the applicant own all rights to the variety? Mark an "X" in the	appropriate block. If no please explo	
, <i>'</i> ,	tro, please expla	X YES NO
,		
·	·	
9. Is the applicant (individual or company) a U.S. National or a U.S. ba	ased company? If no give name of co	
UNIVERSITY AND U.S. GOVERNMENT	and give hame of co	untry X YES NO
10. Is the applicant the original owner? X YES NO	If no, please answer one of the follo	wina:
 a. If the original rights to variety were owned by individual(s), is (ar 	e) the original owner(s) a U.S. National	(s)?
X YES NO	if no, give name of country	•
b. If the original rights to variety were owned by a company(les), is	s (are) the original owner(s) a U.S. base	d company?
X YES NO	If no, give name of country	
	and name of country	
11 Additional avelocity		
11. Additional explanation on ownership (If needed, use the reverse for	extra space):	
JOINT OWNERSHIP BY:		
VIRGINIA STATE UNIVERSITY AND		•
U.S. GOVERNMENT AS REPRESENTED BY	THE SECRETARY OF A	CDICIII TUDE
O.O. GO VERRINEIVI NO REI RESERVIED DI	THE SECRETARY OF A	GMCCLICKE
PLEASE NOTE:		· · · · · · · · · · · · · · · · · · ·
Plant variety protection can only be afforded to the owners (not licensee	s) who meet the following criteria:	
1. If the rights to the variety are owned by the external base is	•	
national of a country which affords similar protection to nationals of the	on must be a U.S. national, national of a U.S. for the same genus and species	a UPOV member country, or
2. If the rights to the variety are owned by the company that the		
nationals of a UPOV member country, or owned by nationals of a cour genus and species.	are original breeder(s), the company make the company mak	ust be U.S. based, owned by ationals of the U.S. for the same
		•
3. If the applicant is an owner who is not the original owner, both the orig	inal owner and the applicant must meet	one of the above criteria.
The original breeder/owner may be the individual or company who direct Act for definitions.	ed the final breeding. See Section 41/a)(2) of the Blant Veriet - Destanting
Action definitions.	g	A-7 or the Figure variety Protection
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720-5984 (voice and TDD). USDA is an equal opportunity provider and employer.	and independence Avenue, SW,	Washington, D.C. 20250-9410 or call (202)

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